HISTORY OF A CASE
OF
RUPTURE OF THE BRAIN
AND ITS
MEMBRANES,
ARISING FROM THE
ACCUMULATION OF FLUID,
IN A CASE OF
HYDROCEPHALUS INTERNUS.

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SARAH BARGUM was born on the 18th of September 1815. At the time of birth the head was observed to be remarkably large. She was brought to me at Gloucester, on the 11th of the following December. At that time the circumference of the head was twenty-eight inches. In the course of another week it increased about an inch. The bones were separated from each other to the greatest possible degree, and all the divisions of the foetal skull were very observable. The circumference did not further enlarge, but a swelling began

on the top of the head over the posterior fontanelle, which in the space of another week acquired the magnitude of a goose's egg. At this period of the disease, the mother, on going one morning to take up the child, was very much surprised to find that the swelling had become much smaller, and perfectly soft. She observed likewise a constant dribbling of water from the urinary passage, and that the bed was soaked with the discharge. It continued incessantly for three days and three nights. By this time the swelling had entirely disappeared, the head was considerably smaller, and the integuments, which before were very much distended, now fell in large wrinkles over the child's forehead, so as actually to cover the eyes.

An increased flow from the urinary organs continued for nearly two months. When it became smaller in quantity, the head began again rapidly to enlarge, the swelling on the top re-appeared, and acquired a much greater bulk than before, it having on this occasion extended itself over the whole of the head and part of the face. On the 7th of March, the tumor had arrived at its greatest size. On that day a watery discharge tinged with blood was seen to ooze from the nostrils and mouth. It continued without ceasing till the 10th, when the swelling on the top of the head had vanished, and the head itself was much smaller.

The fluid never again accumulated in the sack on the outside, nor did the head ever gain its former magnitude, because the discharge from the nostrils was kept up with slight intermission till the time of its death on the 8th of this month. When by any accident the oozing from the nostrils ceased, the parents affirm that there was a corresponding increase in the urinary discharge. When the head was held forward, the fluid ran freely from the nostrils.

The child continued to eat well to the last. The evacuations from the bowels are reported to have been natural, but its powers of assimilation appear to have been destroyed, as she did not seem to have increased in bulk from the time I first saw it. She was sensible to external impressions, but the parents were not in that rank of life to make many observations, either on the nature or effect of such impressions. She never appears to have made the slightest attempt to articulate.

As she lived in the forest of Dean, I had it not in my power to examine her so frequently as I could have wished. But the foregoing facts were perfectly established, by what I saw myself, and by the testimony of a friend * who lives in the neighbourhood, and had an opportunity of ascertaining their truth. The second filling of the head, after

* J. Pyrke, Esq. of Little Dean.

it had been emptied by the great discharge from the urinary organs, seems to have been accomplished in little more than a fortnight. For though the first swelling disappeared in three days, the secretion from the kidneys appears to have been sufficiently active to prevent a second accumulation, till towards the end of February, when the swelling was again observed. As has been already noticed, it gained its greatest size on the 7th of March, and on the 10th it was no more visible.

On the 10th of this month I went to examine the child. Being obliged to perform the dissection in presence of the parents, it was less minute in some respects than I could have wished.

The circumference of the head was about 20 inches, being less by nine inches than it was before the swelling on the top first appeared.

I made a crural incision, and dissected back the integuments. On uncovering that part formerly occupied by the swelling, I saw immediately what accounted for its origin, and explained many of the phænomena. A little to the right side of the falx the dura mater was ruptured, as was demonstrated by a well defined circular opening nearly one inch in diameter, which communicated directly with what was the external tumor and the interior of the brain. Through this opening I evacuated between three and four pints of fluid,

which was contained in a bag formed by both hemispheres of the brain. The expansion of the brain was so great, that round the margin of the opening of the dura mater, it did not equal the thickness of a shilling; and under the opening it had entirely disappeared, proving that it had given way when the dura mater yielded, and allowed the fluid from the internal cavity to escape into the outward swelling.

The cerebellum was entire, and the organs of the different nerves seemed unimpaired. I could not well examine the æthmoid bone, but I easily passed a probe through it into the nose.

The inferences deducible from this case are so obvious that I forbear to mention them. I am not aware that any of a similar kind has ever been recorded. For that reason it appears to me not unworthy of a place in the Memoirs of this Society.

The expansion of the brain, of its membranes and of the cranium, seems to have gone on till the parts would stretch no longer. Then the rupture took place, which caused the first swelling, and established a free and large communication between it and the interior of the brain. This fact is demonstrated by the rapid and remarkable absorption of the fluid in the tumor and in the head, so that the first entirely disappeared, and the latter became so much diminished in size, that the integuments hung in

large folds as already described. We have more convincing illustration of the same fact in the second appearance of the swelling. It was not circumscribed as at first, but extended over the head and face.

I have seen one case similar to that recorded by Mr. Earle in the last volume of the Transactions. The tumor was in the same situation, and had been twice punctured. The event of the disease has not yet been ascertained.

Glocester, Feb. 28, 1817.